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| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|--|-------------|----------------------|---------------------|------------------|
| 10/800,063 | 03/12/2004 | Johannes Wesselmann | SHEE 2 00023 | 8437 |
| 27885 | 7590 | 05/23/2006 | EXAMINER | |
| FAY, SHARPE, FAGAN, MINNICH & MCKEE, LLP 1100 SUPERIOR AVENUE, SEVENTH FLOOR CLEVELAND, OH 44114 | | | KRECK, JOHN J | |
| | | | ART UNIT | PAPER NUMBER |
| | | | 3673 | |
| DATE MAILED: 05/23/2006 | | | | |

Please find below and/or attached an Office communication concerning this application or proceeding.

| | | | |
|------------------------------|-------------------------------|--------------------------------------|--|
| Office Action Summary | Application No. 10/800,063 | Applicant(s) WESSELMANN, JOHANNES | |
| | Examiner John Kreck | Art Unit 3673 | |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 06 March 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-21 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-21 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 11/7/2005 has been entered.

Claims 1-18 are pending.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

1. Claim 6 is rejected under 35 U.S.C. 102(b) as being anticipated by Weber (U.S. Patent number 4,870,697)

Weber also teaches the control system comprising the wireless and cable free bidirectional communication system providing radio communication between the communication device and the face master control sided radio transmission device as called for in claim 6.

2. Claims 19 and 20 are rejected under 35 U.S.C. 102(b) as being clearly anticipated by GB 2265652A. Applicant is reminded that new claims 19 and 20 do not

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require radio or RF communication, and "wireless" is believed to encompass infra-red transmission. Applicant is advised that if these claims were amended to recite "radio", a rejection based on Stolarczyk and ZA7606990 would be appropriate.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. Claims 1 -17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stolarczyk (U.S. Patent number 5,087,099) in view of the DERWENT abstract of ZA7606990A [1978-H4760A]. A copy of the original patent document is not yet available, however the DERWENT abstract represents prior art since it was published in 1978.

Stolarczyk discloses the face control system including a first face sided radio transmission device; and a second face master control sided transmission device, the devices having receiver and transmission modules. Stolarczyk teaches some cable-free and wireless communication, but does disclose a cable (104) between the first and second device; and thus fails to meet the limitation "cable-free" in the entirety of that region.

1978-H4760A teaches a radio link between a fixed underground location and various underground areas. One of ordinary skill in the art would have known that this is advantageous because it allows for communication without stringing wires or cables.

It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the Stolarczyk apparatus to have used a radio link [and therefore a cable-free transmission system] between the first and second devices as called for in claim 1, in order to eliminate the need to lay a cable.

Stolarczyk fails to explicitly disclose the transmission device on the face edge. Absent any showing of unexpected results, the precise placement of the device is deemed to be obvious to one of ordinary skill in the art.

With regards to claim 3; "the communication device in the face" is interpreted as "the first face sided radio transmission device"; which is shown by Stolarczyk; and disclosed as being on multiple shields; thus is deemed to be spaced as called for in claim 3.

Stolarczyk teaches the mining machine having a radio transmission system (e.g. 125) as called for in claim 4.

Stolarczyk teaches the control device as called for in claim 5.

Regarding independent claim 6:

Stolarczyk teaches a face support control system comprising a communication system providing radio communication. Stolarczyk teaches some cable-free and wireless communication, but does disclose a cable (104) between the communication

device and the control sided device; and thus fails to meet the limitation "cable-free" in the entirety of that region.

1978-H4760A teaches a radio link between a fixed underground location and various underground areas. One of ordinary skill in the art would have known that this is advantageous because it allows for communication without string wires or cables.

It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the Stolarczyk apparatus to have used a radio link [and therefore a cable-free transmission system] between communication device and the control sided radio device as called for in claim 6, in order to eliminate the need to lay a cable.

Stolarczyk teaches a first radio as called for in claim 7.

Stolarczyk teaches a second radio as called for in claim 8.

Stolarczyk teaches a second communication device as called for in claim 9.

Stolarczyk teaches radio communication as called for in claim 10.

Stolarczyk teaches the radio transmission station as called for in claim 11.

Stolarczyk teaches a second communication device as called for in claim 12.

Regarding independent claim 13:

Stolarczyk teaches the mining system comprising a mining machine (e.g 124-130, figure 4); a plurality of support shields (96); a plurality of control devices (258, see col 8, lines 23-51) for controlling the shields; at least one communication device (192) in communication with at least one of the plurality of control devices; a face master

control (e.g. 220,224); and a wireless and partly-cable free radio based communication system (e.g. 236 and 248) providing radio communication between the communication device and the face master control . Stolarczyk teaches some cable-free and wireless communication, but does disclose a cable (104) between the communication device and the control sided device; and thus fails to meet the limitation "cable-free" in the entirety of that region.

1978-H4760A teaches a radio link between a fixed underground location and various underground areas. One of ordinary skill in the art would have known that this is advantageous because it allows for communication without string wires or cables.

It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the Stolarczyk apparatus to have used a radio link [and therefore a cable-free transmission system] in place of the partly- cable-free link as called for in claim 13, in order to eliminate the need to lay a cable.

Stolarczyk teaches the radio transmission station (192—col. 7, line 24 or 125—col. 6, lines 32-44) providing communication between the mining machine and the communication device as called for in claim 14.

Stolarczyk teaches first and second communication devices as called for in claim 15.

Stolarczyk teaches the radio communication between the first and second devices as called for in claim 16.

Stolarczyk teaches the radio transmission station providing communication between the mining machine and at least one of the first and second communication devices as called for in claim 17.

4. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Stolarczyk in view of 1978-H4760A as applied to claim 17 above, and further in view of Merriman (U.S. Patent number 5,029,943).

Stolarczyk fails to teach the transmission station (i.e. the mining machine radio) provides communication between both the first and second communication devices (e.g. two distinct shield radios) and the mining machine

Merriman teaches a radio (col. 2, line 30) transmission station for communicating between each shield radio and the mining machine. This provides the advantage of allowing the location of the mining machine to be determined (col. 2, line 14).

It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the Stolarczyk system to have the transmission station provides communication between the first and second communication devices and the mining machine as called for in claim 18; in order to facilitate locating the mining machine along the face.

5. Claim 21 is rejected under 35 U.S.C. 103(a) as being unpatentable over GB 2265652A in view of Maity, et al. (U.S. Patent number 5,368,369).

GB 2265652A lacks explicit disclosure of the control for the neighboring shield. This is well known, and is understood to provide safety advantages because it allows for

control of a shield without being in direct proximity of that shield. It would have been obvious to one of ordinary skill in the art at the time of the invention to have modified the GB2265652 system to have such control as called for in claim 21.

Response to Arguments

Applicant's arguments concerning claim 1 and the Weber patent are found to be persuasive. Weber lacks explicit disclosure of the conveyor, shields, etc. called for in claim 1. Claim 6, however, does not require these elements as part of the control system. The control system of claim 6 is understood to include those elements following "the face support control system comprising..." and not the conveyor, shields, etc. recited in the preamble.

Applicant has persisted in using a definition of the term "cable-free" which is believed to be unduly narrow, and not clearly supported in the specification. See, e.g. the citation from the SME Mining Engineering Handbook (see 12.6.4.2) concerning the coupling of RF signals to metallic structures such as pipes. One of ordinary skill in the art would not understand "cable free" to exclude pipes or conveyor frame structure.

With regards to the "bi-directional" teaching in Stolarczyk, this has been addressed in the final rejection mailed 8/9/2005. See, the bottom of page 5 of that office action.

With regards to the "bi-directional" teaching in ZA 7606990A; it is true that the ZA abstract lacks explicit disclosure of "bi-directional" communication; however it also fails to specify unidirectional communication, and since Stolarczyk is cited for the bi-

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directional communication; this line of argument is not persuasive. It is noted that most modern wireless communication systems are bi-directional in nature; and one of ordinary skill in the art would have been well aware of the advantages of bi-directional communication.

With regards to applicant's arguments concerning the motivation to combine, contentions that the reference patents are old are not impressive absent a showing that the art tried and failed to solve the same problem notwithstanding its presumed knowledge of the references. See *In re Wright*, 569 F.2d 1124, 193 USPQ 332 (CCPA 1977).

With regards to claim 18: it is first noted that Stolarczyk, not the '943 patent, is cited for bi-directional transmission. Additionally, it is not agreed that the '943 patent lacks bi-directional communication. See, e.g. col. 5, lines 31-35; where transmitting and receiving are both disclosed.

6. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

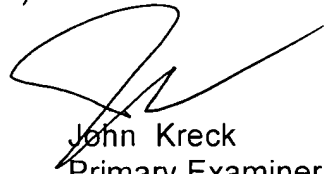
A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to John Kreck whose telephone number is 571-272-7042. The examiner can normally be reached on Mon-Thurs 530am-2pm; Fri: telework.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Patricia Engle can be reached on 571-272-6660. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



John Kreck
Primary Examiner
Art Unit 3673

17 May 2006